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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,605

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EXAMINER

KRUER, STEFAN

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,605	<b>Applicant(s)</b> SWAYBILL ET AL.	
	<b>Examiner</b> Stefan Krueer	<b>Art Unit</b> 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 3, 6 - 10, 13, 14, 16 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1 - 3, 6, 8 - 10, 13, 14, 16 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>17 March 2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 6 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmon et al (4,807,723) in view of Bauer (US 2002/0185338).

**Re: Claims 1 and 22**, Salmon et al disclose:

- a machine supporting portion (top, center of 14) that secures a machine comprising a motor (10) in a selected position in a hoistway (referenced, Col. 2, Line 19).
- and a sheave supporting portion (top, end of 14) to support at least one sheave; the supporting portions being secured together to form a single structure that supports the machine and the sheave, the single structure being located inside the hoistway.

However, though Salmon et al disclose load-bearing members (20), they are silent regarding a plurality of termination members and their supporting portions each comprising a plurality of metal sheets secured together.

Attention is directed to Bauer who teaches a termination-supporting portion plurality (17, Fig. 1) for securing a plurality of termination members (ends of 16) in a selected position, the termination members being configured to secure an end of associated load-bearing members (16, Para. 0020) near the selected position.

Furthermore, Bauer teaches his supporting portions comprising a plurality of metal sheets secured together (Para. 0017) as "... a frame 15.1 made of sections and a mounting plate 15.2..."

It would have been obvious to one of ordinary skill in the art to modify the reference of Salmon et al with the teaching of Bauer to integrate a termination in the machine-supporting portion as typical of conventional (2:1) rope suspension systems.

**Re: Claim 6**, Salmon et al disclose their machine- and sheave-supporting portions as comprising two lateral beam members (14).

**Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Salmon et al in view of Bauer, as applied to Claim 1, and in further view of Morris et al (4,537,286).

Salmon et al are silent regarding a termination-supporting portion.

Bauer teaches his first and second termination members (17, Fig. 1 and 19, Fig. 2, respectively) having respective first and second termination-supporting portions, wherein his first terminating supporting portion forms a single structure with his machine supporting portion, sheave and termination members, and said single structure is located inside the hoistway.

However, his second termination portion is secured separately of his single structure.

Attention is directed to Morris et al who teach a support device having a large plurality of termination members suspended from termination-support members mounted on overhead beams, machine beams or ... auxiliary beams..." (Col. 3, line 4) of particular benefit for applications utilizing 2:1 suspension (Col. 1, line 11), wherein his termination portion comprises a plurality of metal sheets secured together.

It would have been obvious to one of ordinary skill in the art to modify the reference of Salmon et al and Bauer with the teaching of Morris et al to integrate a second termination portion in the machine-supporting portion to accommodate 2:1 rope suspension systems as known in the art for reduction of space and drive capacities.

**Claims 3 and 8 - 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmon et al in view of Bauer, as applied to Claim 1, and in further view of de Jong et al.

**Re: Claim 3**, Salmon et al and Bauer disclose a single sheave-supporting portion.

Attention is directed to de Jong et al who their first and second sheave supporting portions to accommodate additional tensioning for maintaining alignment of suspension ropes within the sheave grooves as well as their displacement.

It would have been obvious to one of ordinary skill in the art to modify the reference of Salmon et al and Bauer with the teaching of de Jong et al to provide additional aligning means of suspension ropes for flexibility of installation and smoother operation.

**Re: Claims 8 and 9**, Salmon et al disclose a mounting member near each end of the lateral beam members.

Bauer discloses his mounting member(s) (15.2) in combination with a "... frame (15.1) made of sections... " whereby his mounting member(s) is "... fastened to... rails..." (Para. 0017) that carry a load of the device and associated elevator system components; however, Bauer is silent regarding the details of his frame.

Attention is directed to de Jong et al who teach their device including:

- two spaced lateral beam members (right-left, Fig. 4),
- at least one transverse beam (Fig. 5) extending between and secured to the lateral beam members near each end of the beam members,
- mounting members near each end of each lateral beam member (Fig. 4),
- said mounting members securing the device to a structure that carries a load of the device.
- And a plurality of vertical brace members (raised portions, Fig. 4) connected to each of the mounting members;

It would have been obvious to one of ordinary skill in the art to modify the reference of Salmon et al and Bauer with the teaching of de Jong et al to provide an appropriately constructed and secured support-framing structure.

**Claims 10 and 13, 14 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmon et al in view of de Jong et al and in further view of Orrman et al (US 2002/0017434).

**Re: Claim 16**, Salmon et al disclose:

- a machine having a motor (10) and a drive sheave (12) inside a hoistway,
- an idler sheave (16) inside a hoistway,
- an elevator cab ("car"),
- a counterweight ("C.W.")
- a plurality of elongated load bearing members (20) associated with the cab and counterweight, said load bearing members being moveable about the drive sheave and idler sheave in response to operation of the machine;
- a single support device in the hoistway that secures the machine and sheave in a desired position in the hoistway relative to the cab and counterweight;
- the support device includes two lateral beam members (14) that provide support for the machine and the sheave, the lateral beam members are spaced from each other;

however, Salmon et al are silent regarding a plurality of termination members associated with the ends of the load-bearing members, wherein said termination members are secured by their single support device, as well as their idler sheave and drive rotating about non-parallel axes and a wrap angle of at least 180° around their drive sheave.

Attention is directed to de Jong et al who teach the structure of Salmon et al with an idler sheave (8, Fig.'s 4 and 5) and their machine comprising a motor (1) and drive sheave (3). The orientation of their traction and idler sheave(s) incorporate an offset(s) with respect to their parallel axes in order to accommodate a desired frictional loading without compromising the service life of their ropes (4, Fig. 3 and Fig. 6b). Furthermore, de Jong et al teach their idler sheave and drive sheave positioned relative to each other so that the elongated load bearing members (4) extend vertically, deflect about the idler

sheave in a generally horizontal direction and then are wrapped at least 180° around the drive sheave, whereby their idler sheave and drive sheave rotate about parallel axes.

However, though terminations at ends of elongated load bearing members for supporting an elevator cab and counterweight are known in the art, de Jong et al are silent regarding terminations.

Further consideration is directed to Orrman et al who teach their terminations (10, 11) associated with the ends of their load bearing members (9) for suspending their cab and counterweight, their terminations fixed to a common support device that secures the machine and terminations in a desired position inside the hoistway relative to their cab (2) and counterweight (4) as a "...compact package... suited for... modernization projects... and (sic) an elevator without a machine room..." (Para. 0011).

It would have been obvious to one of ordinary skill in the art to modify the reference of Salmon et al with the teaching of de Jong et al and Orrman et al, to provide a single support device for the machine, sheave and terminations in a 2:1 suspension arrangement for savings in space and drive capacity.

**Re: Claims 10 and 13**, Salmon et al disclose their support device includes two lateral beam members to support the machine and idler sheave, the lateral beam members are spaced apart from each other, and at least one transverse member; however, Salmon et al are silent regarding terminating members and their support.

De Jong et al disclose both lateral and transverse beam members; however, De Jong et al are silent regarding at least one termination member secured to their lateral beam members.

It is Orrman et al who teach their first and second terminations (10, 11) secured to either end of their support device, and thereby the transverse beam members of De Jong et al, to provide a single support device for the machine, sheave and terminations for operability in 2:1 roping suspensions and compactness.

**Re: Claim 14**, Salmon et al disclose their support comprise a plurality of metal beam members.

***Allowable Subject Matter***

**Claim 7** is allowed.

***Response to Arguments***

Applicant's arguments, filed 25 January 2008, with respect to **Claims 1 - 2** have been fully considered but they are not persuasive. With respect to applicant's arguments pursuant to **Claim 7**, applicant's arguments are based on the amended claim language applied to the prior art of record.

With respect to applicant's arguments pertaining to **Claim 2**, applicant argues that the reference of Bauer does not teach a plurality of metal sheets secured together; however, as cited in the rejection and acknowledged by the applicant, Bauer states that his "... supporting construction 15, which consists of a frame 15.1 made of sections and a mounting plate 15.2..." (Para. 0017, Figure 1) teaches the plurality of metal sheets secured together, as would be expected at the minimum as an adequate framework for supporting the loads associated with an elevator drive.

Furthermore, Bauer teaches a support arrangement comprising metal sheets, said support arrangement forming a single structure for supporting his machine, sheave and terminations members, the latter of his first termination portion. Morris et al teach the ability to have multiple, disparate termination members supported from a common, as well opposing/interconnected, termination supporting portions (hence, first and second termination portions), wherein said portions can comprise beams that support a machine.

Therefore, Bauer and Morris et al teach the structure lacking in Salmon et al, to accommodate a 2:1 suspension for known features such as reduction in drive capacity, enhanced responsiveness, compactness and superior leveling control.

Again, as reviewed in the previous office actions, with respect to the inability of modifying Salmon et al with the teaching of de Jong et al, the applicant is correct that the reference of Salmon et al discloses the idler and drive sheaves having non-parallel



axes in light of necessary offset to accommodate the rope pattern. De Jong et al, however, teaches the axes of the idler and drive sheaves as being parallel through an offset (T, U) in the plane of rotation of said idler sheave in relation to that of the drive sheave, while accommodating a plurality of load bearing members and promoting their service life. Hence, De Jong et al teach to overcome the "drawbacks" of Salmon et al.

With respect to applicant's arguments that the invention of Salmon et al is destroyed by the teaching of de Jong et al and, furthermore, entail hindsight reasoning, the supporting portions of Salmon et al are of primary interest, in that Salmon et al disclose an orientation and scope of a motor, a drive sheave, a diverting sheave and beam elements comprising their supports, whereby de Jong et al teach a variation employing multiple diverting sheaves, a drive sheave, a diverting sheave and beam elements comprising their supports. Both employ a variation of extended wrap angles and the offset of diverting sheave(s) to accommodate the suspension planes of their respective counterweight and elevator car. Consequently, the teaching of de Jong et al in terms of multiple diverting sheaves as well as their interdependent orientation and alignment would be applicable for consideration of one having ordinary skill in the art.

In general, with respect to the applicant's previous arguments that a case for obviousness was not sufficiently put forth in the previous rejection(s), the prior art of reference incorporate the limitations and teachings as derived from their respective disclosures that establish and support reasonable motivation(s) to combine.

Finally, with respect to the language of **Claims 1 - 3**, the disclosures of Hayashi et al and Raida et al, the latter as the previous prior art made of record as considered pertinent to applicant's disclosure yet not relied upon, are noted for their relevance.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571.272.6856. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/  
Examiner, Art Unit 3654  
24 April 2008  
/Peter M. Cuomo/  
Supervisory Patent Examiner, Art Unit 3654